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## NOTICE OF ALLOWANCE AND FEE(S) DUE

51092 7590 02/23/2010

ESCHWEILER & ASSOCIATES LLC  
629 EUCLID AVENUE, SUITE 1000  
NATIONAL CITY BUILDING  
CLEVELAND, OH 44114

EXAMINER

PEREZ, JAMES M.

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 02/23/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,037	03/10/2005	Martin Bacher	LLP134WOU5	2024
TITLE OF INVENTION: ELECTRONIC TRANSMITTER/RECEIVER				

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/24/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
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**P.O. Box 1450**  
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 or Fax **(571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/02,037	03/10/2005	Martin Bacher	LLP134W0U5	2024

TITLE OF INVENTION: ELECTRONIC TRANSMITTER/RECEIVER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/24/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
PEREZ, JAMES M	2611	375-265000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,037	03/10/2005	Martin Bacher	LLP134WOUS	2024
51092	7590	02/23/2010	EXAMINER	
ESCHWEILER & ASSOCIATES LLC 629 EUCLID AVENUE, SUITE 1000 NATIONAL CITY BUILDING CLEVELAND, OH 44114			PEREZ, JAMES M.	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 02/23/2010

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 742 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 742 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/502,037

**Examiner**

JAMES M. PEREZ

**Applicant(s)**

BACHER ET AL.

**Art Unit**

2611

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/2/2009.
2. ☒ The allowed claim(s) is/are 1,7,9,11-21 and 46-50.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/James M Perez/  
Examiner, Art Unit 2611

### DETAILED ACTION

This action is responsive to the amendments filed on 12/2/2009.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

- (1) In claim 1, lines 15-16 change the following wording

"the data stream" to

**---the output data stream ---**

- (2) In claim 1, lines 22-23 change the following wording

"its first data input" to

**---the first data input---**

- (3) In claim 1, lines 24-25 change the following wording

"its second data input" to

**---the second data input---**

- (4) In claim 7, line 2 change the following wording:

"wherein both shift registers" to

**---wherein both of the shift registers---**

- (5) In claim 11, lines 13-14 change the following wording

"the data stream" to

**---the output data stream---**

- (6) In claim 11, lines 20-21 change the following wording

"its first data input" to

**---the first data input---**

- (7) In claim 11, lines 22-23 change the following wording

"its second data input" to

**---the second data input---**

- (8) In claim 12, line 2 change the following wording:

"wherein the interleaver comprises an RAM" to

**---wherein the interleaver comprises a RAM---**

- (9) In claim 13, lines 13-14 change the following wording

"the data stream" to

**---the output data stream---**

- (10) In claim 17, lines 25-26 change the following wording

"its parallel output data stream" to

**---the parallel output data stream---**

- (11) In claim 18, line 5 change the following wording:

"wherein the puncturing device is configured" to

**---wherein the first puncturing element is configured---**

***Allowable Subject Matter***

2. Claims 1, 7, 9, 11-21, and 46-50 are allowed.

3. The following is an examiner's statement of reasons for allowance:

(1) With regards to claims 1, 11, and 13, the present invention an electronic transmitter device comprising: a puncturing device, wherein the puncturing device comprises: a first and a second data output, wherein the puncturing device is configured to distribute an output data stream substantially uniformly in parallel between the first and second data outputs, wherein the puncturing device is configured to provide empty locations in the output data stream so that a number of bits of an input data stream corresponds, including with the empty locations, to a number of bits of the output data stream, and wherein the puncturing device configured to output, in addition to the output data stream, a signal which indicates a position of an empty location in the output data stream; and an interleaver arranged downstream of the puncturing device in a direction of the data stream, and comprising: a first data input which is directly or indirectly

electrically connected to the first data output of the puncturing device;  
a second data input which is directly or indirectly electrically connected to the second data output of the puncturing device.

The closest prior art, Applicant's Admitted Prior Art (herein referenced as AAPA), shows a similar apparatus which also includes a puncturing device and subsequent stage interleaver. However AAPA fails to disclose the puncturing device as claimed, the signal which indicates a position of an empty location as claimed, and the interleaver structuring and coupling as claimed. The distinct features have been added to independent claim 1, thus rendering claims 1, 7, 9, 11-13, 14-16, and 19-20 allowable.

(2) With regards to claim 17, the present invention an electronic transmitter device comprising: an electronic transmitter device comprising: a puncturing device, wherein the puncturing device comprises: a first and a second data output, wherein the puncturing device is configured to distribute an output data stream substantially uniformly in parallel between the first and second data outputs; wherein the puncturing device is configured to provide empty locations in the output data stream so that a number of bits of an input data stream corresponds, with the empty locations, to a number of bits of the output data stream; wherein the puncturing device is configured to output, in addition to the output data stream, an indication signal which indicates a position of an empty location in the output data stream; wherein the puncturing device comprises a first puncturing element and a second puncturing element which is arranged downstream of the first puncturing element in the direction of the data stream;



wherein the first puncturing element comprises a first and a second data output and is configured in such a way that it distributes its output data stream substantially uniformly between its two data outputs; wherein the second puncturing element comprises a first and a second data input, the first data input of the second puncturing element being directly or indirectly electrically connected to the first data output of the first puncturing element, and the second data input of the second puncturing element being directly or indirectly electrically connected to the first data output of the first puncturing element; wherein: the first puncturing element is configured in such a way that, in addition to its parallel output data stream, the first puncturing element transmits to the second puncturing element the indication signal which informs the second puncturing element about empty locations in the parallel output data stream of the first puncturing element, and the second puncturing element is configured in such a way that, using the indication signal which is additionally transmitted by the first puncturing element, the second puncturing element detects the empty locations in the parallel input data stream coming from the first puncturing element, and does not include them in the further data processing.

The closest prior art, Applicant's Admitted Prior Art (herein referenced as AAPA), shows a similar apparatus which also includes a puncturing device and subsequent stage interleaver. However AAPA fails to disclose the puncturing device and elements as claimed and the signal which indicates a position of an empty location as claimed. The distinct features have been added to independent claim 17, thus rendering claim 17 allowable.

(3) With regards to claim 18, the present invention an electronic transmitter device comprising: a first puncturing element comprising: a first and a second data output, wherein the first puncturing element is configured in such a way that it distributes an output data stream substantially uniformly between the first and second data outputs and is further configured to provide empty locations in the output data stream so that a number of bits of an input data stream corresponds, with the empty locations, to a number of bits of the output data stream; wherein the first puncturing element comprises a first data input and a second data input, and is configured in such a way that a 1-step delay register is connected between the first data input and the first data output, the second data input is electrically connected to a first input of a multiplexer via a 1-step delay register, and in parallel with this the second data input is directly electrically connected to a second input of a multiplexer, and the multiplexer has an output which is electrically connected to the second data output of the first puncturing element via a further 1-step delay register.

The closest prior art, Applicant's Admitted Prior Art (herein referenced as AAPA), shows a similar apparatus which also includes a puncturing device. However AAPA fails to disclose the structure of the first puncturing element as claimed to provide empty location in the claimed output data stream. The distinct features have been added to independent claim 18, thus rendering claims 18 and 46-50 allowable.

(4) With regards to claim 21, the present invention an electronic transmitter device comprising: an electronic transmitter device comprising: a puncturing device, wherein the puncturing device comprises: a first and a second data output, wherein the puncturing device is configured to distribute an output data stream substantially uniformly in parallel between the first and second data outputs; wherein the puncturing device is configured to provide empty locations in the output data stream so that a number of bits of an input data stream corresponds, with the empty locations, to a number of bits of the output data stream; wherein the puncturing device is configured to output, in addition to the output data stream, an indication signal which indicates a position of an empty location in the output data stream; wherein the puncturing device comprises a first puncturing element and a second puncturing element which is arranged downstream of the first puncturing element in the direction of the data stream; wherein the second puncturing element comprises a first data output and a second data output; wherein: the second puncturing element comprises three multiplexers which each have two inputs and one output, the first data input of the second puncturing element is directly electrically connected both to the first input of the first multiplexer of the second puncturing element and to the first input of the second multiplexer of the second puncturing element the second data input of the second puncturing element is directly electrically connected both to the second input of the first multiplexer of the second puncturing element and to the second input of the second multiplexer of the second puncturing element, the output of the first multiplexer of the second puncturing element is directly electrically connected to the first input of the third multiplexer of the

second puncturing element, the output of the first multiplexer of the second puncturing element is electrically connected via a 1-step delay register to the second input of the third multiplexer of the second puncturing element, the output of the third multiplexer of the second puncturing element is electrically connected via a 1-step delay register to the first data output of the second puncturing element, and the output of the second multiplexer of the second puncturing element is electrically connected via a further 1-step delay register to the second data output of the second puncturing element.

The closest prior art, Applicant's Admitted Prior Art (herein referenced as AAPA), shows a similar apparatus which also includes a puncturing device including two puncturing elements. However AAPA fails to disclose the structure of the first and second puncturing element as claimed and signal indicating the empty location in the output data stream as claimed. The distinct features have been added to independent claim 21, thus rendering claim 21 allowable.

### ***Conclusion***

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. PEREZ whose telephone number is (571)270-3231. The examiner can normally be reached on Monday through Friday: 9am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James M Perez/  
Examiner, Art Unit 2611  
2/12/2010  
/Shuwang Liu/  
Supervisory Patent Examiner, Art Unit 2611